

- 9 -

CLAIMS

1. A screen bar for a respirator helmet or other helmet adapted to carry a protective screen and comprising half of at least one plug and socket
5 arrangement by which the bar can be mounted on the helmet to dispose the screen in front of the wearer's face.
2. A screen bar as claimed in claim 1 being of a curved shape to conform approximately to the shape of the helmet, and having halves of respective plug
10 and socket arrangements at each end.
3. A screen bar as claimed in claim 1 or claim 2 wherein the half of the plug and socket arrangement is a plug.
- 15 4. A screen bar as claimed in claim 3, wherein the plug comprises a rod having a detent for engaging a corresponding retaining structure in the socket.
5. A screen bar as claimed in any preceding claim, wherein the bar is pivotable relative to at least one plug and socket arrangement so that the screen
20 can be raised whilst the helmet is being worn.
6. A screen bar as claimed in claims 4 and 5 comprising a pivot adjacent each end of the bar, an arm extending from each pivot, the rod being attached to the arm at a point spaced from the pivot so that a free end of the rod extends
25 back towards the pivot.
7. A respirator or other helmet adapted to carry a protective screen by means of a bar as claimed in any preceding claim, and comprising the other half of the at least one plug and socket arrangement of the bar.
- 30 8. A helmet as claimed in claim 7 when dependent from claim 2, having

- 10 -

halves of two plug and socket arrangements adjacent the temple regions of the helmet.

9. A helmet as claimed in claim 8, wherein the helmet halves of the plug and
5 socket arrangement are provided on a visor of the helmet.

10. A helmet as claimed in claim 9 when dependent from claim 3 or claim 4,
wherein the said helmet halves of the plug and socket arrangement are sockets.

10 11. A helmet as claimed in claim 10, wherein the sockets are disposed on
visor pivot covers of the helmet.

12. A helmet as claimed in any of claims 7 to 11, in combination with a screen
bar as claimed in any of claims 1 to 6.

15

13. A helmet and screen bar combination as claimed in claim 12, the screen
bar being as claimed in claim 6, each bar pivot being positioned relative to an
adjacent pivot of a visor of the helmet so that the helmet visor and the protective
screen can be raised together whilst the helmet is being worn.

20

14. A respirator comprising a hood for enclosing at least the face area of a
user, a filter, a fan for generating a flow of air through the filter, a duct for
delivering the flow of filtered air to the vicinity of the user's face, a bypass conduit
for abstracting a portion of the flow from the duct and subsequently returning the
25 abstracted portion to the remainder of the flow, means for measuring the flow
rate of air through the bypass conduit and means for controlling the fan in
response to the measured flow rate.

15. A respirator according to Claim 14, wherein said control means is arranged
30 to control power supplied to a motor of the fan depending on the measured flow
rate.

- 11 -

16. A respirator according to Claim 15, comprising display means mounted on said visor for generating a visual alert depending on the output to the motor.

17. A respirator according to any of claim 14 to 16, wherein the fan is a
5 tangential fan arranged to receive the filtered air flow from the filter substantially parallel to the axis of rotation of the blades of the fan and to discharge the air flow tangentially to the arc described by the tips of the blades into the duct.

18. A respirator according to any of claims 14 to 17, wherein said
10 measurement means comprises a mass air flow sensor.

19. A screen bar substantially as hereinbefore described with reference to and/or as illustrated in the drawings.

15 20. A respirator or other helmet substantially as hereinbefore described with reference to and/or as illustrated in the drawings.

21. A helmet and screen bar combination substantially as hereinbefore described with reference to and/or as illustrated in the drawings.

20

22. A respirator substantially as herein described with reference to the accompanying drawings.